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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/711,745	10/01/2004	Jerome K. Hastings	ETC7455.064	5744
27060	7590	09/23/2005		
ZIOLKOWSKI PATENT SOLUTIONS GROUP, SC (EATON) 14135 NORTH CEDARBURG ROAD MEQUON, WI 53097			EXAMINER NGUYEN, VINH P	
			ART UNIT	PAPER NUMBER
			2829	

DATE MAILED: 09/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/711,745

Applicant(s)

HASTINGS ET AL.

Examiner

VINH P. NGUYEN

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 4-6, 10, 11, 14-16, 23-30 and 37-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 12, 13, 17, 31-35, 44 and 45 is/are rejected.
- 7) ☒ Claim(s) 7-9, 18-21, 36 and 43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1004,0505.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

1. Applicant's election with traverse of species of figure 1 including claims 1-22 and 31-45 in the reply filed on 09/02/05 is acknowledged. The traversal is on the ground(s) that Examiner did not provide an example of alternative use. This is not found persuasive because there is no details in the specification showing that the apparatus of figures 1-3 can provide the step of generating a first feedback and a second feed back as recited in the instant claim 23. As a result, the statement of the apparatus of group I can be practiced with different method steps other than the method steps of group II is accurate.

The requirement is still deemed proper and is therefore made FINAL.

2. It appears that at least claims 1-3, 12-13, 17, 31-34 are generic. Furthermore, claims 4-6, 10-11, 14-16, 37-42 do not read on elected species of figure 1 since these limitation do not have support in elected species of figure 1, therefore these claims are withdrawn from consideration along with claims 23-30.

3. Claims 4-6, 10-11, 14-16, 23-30 and 37-42 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 09/02/05.

4. The abstract of the disclosure is objected to because legal phraseology such as "the present invention" is used. Correction is required. See MPEP § 608.01(b).

5. Claims 7-9, 18-21 and 36 are objected to because of the following informalities:

In claims 7, 19, 21 and 43, it is unclear what is meant by "free of variation". Furthermore, what is "variation" and what does it comprise of.

In claims 8, 18, it is unclear what “a constant current supply power” comprises of. Is it shown in any of drawings?

In claim 9, it is unclear what “ferromagnetic field concentrating material” comprises of.

In claim 20, it is unclear what “ferromagnetic core material” comprises of.

In claim 36, it appears that this claim does not have support in the specification.

Therefore, this claim should be deleted.

Appropriate correction is required.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1,3,12-13,22,31,34-35 and 44-45 rejected under 35 U.S.C. 102(b) as being anticipated by Lienhard (Pat # 4,559,495)

As to claims 1,12-13,31 and 45, Lienhard disclose in figure #2 a current monitoring system having a conductive path (1) to receive a current (I) therethrough, a first current sensor (2) positioned on a first side of the conductive path (1), and configured to monitor a first directional magnetic field induced by the current., a second current sensor (3) positioned on a second side of the conductive path (1) opposite the first current sensor (2), configured to monitor a second directional magnetic field induced by the current that is substantially opposite in

direction to the first directional magnetic field and a process component (4) for receiving feedback from the first and second sensors (2,3) and generates an anti-differential output from the feedback.

As to claims 3, the first and second sensors (2,3) are Hall effect sensors.

As to claim 9, it appears that the first and second current sensor are substantially free of ferromagnetic field concentrating materials.

As to claims 22,44, it appears that the difference is zero when there is no current flow is present through the conductor.

As to claim 34, it appears that the first and second sensors (2,3) are positioned about the periphery of the electrically conductive path (1).

As to c includes claim 35, it appears that the current flow through the electrically conductive path (1) includes at least one of an alternating current (AC) and direct current (DC).

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2,17,32,-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lienhard (Pat # 4,559,495) in view of Rippel (Pat # 5,041,780).

As to claims 2,17,32-33, the device of Lienhard discloses a current monitoring

system having a conductive path (1) to receive a current (I) therethrough, a first current sensor (2) positioned on a first side of the conductive path (1), and configured to monitor a first directional magnetic field induced by the current., a second current sensor (3) positioned on a second side of the conductive path (1) opposite the first current sensor (2), configured to monitor a second directional magnetic field induced by the current that is substantially opposite in direction to the first directional magnetic field and a process component (4) for receiving feedback from the first and second sensors (2,3) and generates an anti-differential output from the feedback. However, Lienhard does not disclose a process component as a differential amplifier or an op-amplifier.

Rippel teaches that it would have been well known to provide a differential amplifier circuit (A1,A2,A3) to the output of the Hall sensors (sensor 1, sensor2) as shown in figure 1C.

It would have been obvious for one of ordinary skill in the art to substitute the process component of Lienhard for the differential amplifier as taught by Rippel since this is an alternative circuitry for outputting a differential signal between two sensors.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Smith et al (Pat # 5,841,272) disclose frequency insensitive current sensor .

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VINH P. NGUYEN whose telephone number is 571-272-1964. The examiner can normally be reached on 6:30AM-4:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



VINH P NGUYEN

Primary Examiner

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09/21/05